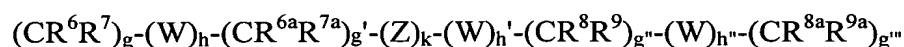


This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented): A compound, comprising: a targeting moiety and a chelator, wherein the targeting moiety is bound to the chelator, is a peptide or peptidomimetic, and binds to a receptor that is upregulated during angiogenesis, the receptor is $\alpha_v\beta_3$, and the compound has a linking group between the targeting moiety and chelator, the linking group having the formula:



wherein,

W is independently selected at each occurrence from the group: O, S, NH, NHC(=O), C(=O)NH, C(=O), C(=O)O, OC(=O), NHC(=S)NH, NHC(=O)NH, SO₂, (OCH₂CH₂)_s, (CH₂CH₂O)_{s'}, (OCH₂CH₂CH₂)_{s''}, (CH₂CH₂CH₂O)_t, and (aa)_{t'};

aa is independently at each occurrence an amino acid;

Z is selected from the group: aryl substituted with 0-3 R¹⁰, C₃₋₁₀ cycloalkyl substituted with 0-3 R¹⁰, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R¹⁰;

R⁶, R^{6a}, R⁷, R^{7a}, R⁸, R^{8a}, R⁹ and R^{9a} are independently selected at each occurrence from the group: H, =O, COOH, SO₃H, PO₃H, C₁ C₅ alkyl substituted with 0-3 R¹⁰, aryl substituted with 0-3 R¹⁰, benzyl substituted with 0-3 R¹⁰, and C₁ C₅ alkoxy substituted with 0-3 R¹⁰, NHC(=O)R¹¹, C(=O)NHR¹¹, NHC(=O)NHR¹¹, NHR¹¹, R¹¹, and a bond to the chelator;

R^{10} is independently selected at each occurrence from the group: a bond to the chelator, COOR^{11} , OH , NHR^{11} , SO_3H , PO_3H , aryl substituted with 0-3 R^{11} , C_{1-5} alkyl substituted with 0-1 R^{12} , C_{1-5} alkoxy substituted with 0-1 R^{12} , and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R^{11} ;

R^{11} is independently selected at each occurrence from the group: H, aryl substituted with 0-1 R^{12} , a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 R^{12} , C_{3-10} cycloalkyl substituted with 0-1 R^{12} , polyalkylene glycol substituted with 0-1 R^{12} , carbohydrate substituted with 0-1 R^{12} , cyclodextrin substituted with 0-1 R^{12} , amino acid substituted with 0-1 R^{12} , polycarboxyalkyl substituted with 0-1 R^{12} , polyazaalkyl substituted with 0-1 R^{12} , peptide substituted with 0-1 R^{12} , wherein the peptide is comprised of 2-10 amino acids, and a bond to the chelator;

R^{12} is a bond to the chelator;

k is selected from 0, 1, and 2;

h is selected from 0, 1, and 2;

h' is selected from 0, 1, 2, 3, 4, and 5;

h" is selected from 0, 1, 2, 3, 4, and 5;

g is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

g' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

g" is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

g''' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

s is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

s' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

s" is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

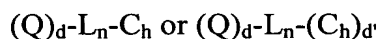
t is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10; and

t' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

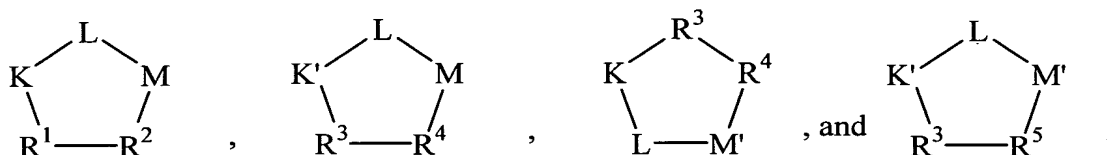
with the proviso that at least one of k, h, h', h'', g, g', g'', and g''' is other than 0.

2. (Previously Presented): A compound according to Claim 1, wherein the targeting moiety is a peptide or a mimetic thereof and the linking group is present between the targeting moiety and chelator.

3. (Previously Presented): A compound according to Claim 2, the compound is of the formula:



wherein, Q is a peptide independently selected from the group:



K is an L-amino acid independently selected at each occurrence from the group: arginine, citrulline, N-methylarginine, lysine, homolysine, 2-aminoethylcysteine, δ -N-2-imidazolinylnornithine, δ -N-benzylcarbamoylnornithine, and β -2-benzimidazolylacetyl-1,2-diaminopropionic acid;

K' is a-D amino acid independently selected at each occurrence from the group: arginine, citrulline, N-methylarginine, lysine, homolysine, 2-aminoethylcysteine, δ -N-2-imidazolinylnornithine, δ -N-benzylcarbamoylnornithine, and β -2-benzimidazolylacetyl-1, 2-diaminopropionic acid;

L is independently selected at each occurrence from the group: glycine, L-alanine, and D-alanine;

M is L-aspartic acid;

M' is D-aspartic acid;

R¹ is an amino acid substituted with 0-1 bonds to L_n, independently selected at each occurrence from the group: glycine, L-valine, D-valine, alanine, leucine, isoleucine, norleucine, 2-aminobutyric acid, 2-aminohexanoic acid, tyrosine, phenylalanine, thienylalanine, phenylglycine, cyclohexylalanine, homophenylalanine, 1-naphthylalanine, lysine, serine, ornithine, 1,2-diaminobutyric acid, 1,2-diaminopropionic acid, cysteine, penicillamine, and methionine;

R² is an amino acid, substituted with 0-1 bonds to L_n, independently selected at each occurrence from the group: glycine, valine, alanine, leucine, isoleucine, norleucine, 2-aminobutyric acid, 2-aminohexanoic acid, tyrosine, L-phenylalanine, D-phenylalanine, thienylalanine, phenylglycine, biphenylglycine, cyclohexylalanine, homophenylalanine, L-1-naphthylalanine, D-1-naphthylalanine, lysine, serine, ornithine, 1,2-diaminobutyric acid, 1,2-diaminopropionic acid, cysteine, penicillamine, methionine, and 2-aminothiazole-4-acetic acid;

R³ is an amino acid, substituted with 0-1 bonds to L_n, independently selected at each occurrence from the group: glycine, D-valine, D-alanine, D-leucine, D-isoleucine, D-norleucine, D-2-aminobutyric acid, D-2-aminohexanoic acid, D-tyrosine, D-phenylalanine, D-thienylalanine, D-phenylglycine, D-cyclohexylalanine, D-homophenylalanine, D-1-naphthylalanine, D-lysine, D-serine, D-ornithine, D-1,2-diaminobutyric acid, D-1,2-diaminopropionic acid, D-cysteine, D-penicillamine, and D-methionine;

R⁴ is an amino acid, substituted with 0-1 bonds to L_n, independently selected at each occurrence from the group: glycine, D-valine, D-alanine, D-leucine, D-isoleucine, D-norleucine, D-2-aminobutyric acid, D-2-aminohexanoic acid, D-tyrosine, D-phenylalanine, D-thienylalanine, D-phenylglycine, D-cyclohexylalanine, D-homophenylalanine, D-1-naphthylalanine, D-lysine, D-serine, D-ornithine, D-1,2-

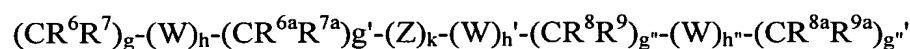
diaminobutyric acid, D-1,2-diaminopropionic acid, D-cysteine, D-penicillamine, D-methionine, and 2-aminothiazole-4-acetic acid;

R^5 is an amino acid, substituted with 0-1 bonds to L_n , independently selected at each occurrence from the group: glycine, L-valine, L-alanine, L-leucine, L-isoleucine, L-norleucine, L-2-aminobutyric acid, L-2-aminohexanoic acid, L-tyrosine, L-phenylalanine, L-thienylalanine, L-phenylglycine, L-cyclohexylalanine, L-homophenylalanine, L-1-naphthylalanine, L-lysine, L-serine, L-ornithine, L-1,2-diaminobutyric acid, L-1,2-diaminopropionic acid, L-cysteine, L-penicillamine, L-methionine, and 2-aminothiazole-4-acetic acid;

provided that one of R^1 , R^2 , R^3 , R^4 , and R^5 in each Q is substituted with a bond to L_n , further provided that when R^2 is 2-aminothiazole-4-acetic acid, K is N-methylarginine, further provided that when R^4 is 2-aminothiazole-4-acetic acid, K and K' are N-methylarginine, and still further provided that when R^5 is 2-aminothiazole-4-acetic acid, K' is N-methylarginine;

d is selected from 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

L_n is a linking group having the formula:



provided that $g+h+g'+k+h'+g''+h''+g'''$ is other than 0;

W is independently selected at each occurrence from the group: O, S, NH, NHC(=O), C(=O)NH, C(=O), C(=O)O, OC(=O), NHC(=S)NH, NHC(=O)NH, SO₂, (OCH₂CH₂)_s, (CH₂CH₂O)_s, (OCH₂CH₂CH₂)_s, (CH₂CH₂CH₂O)_t, and (aa)_t;

aa is independently at each occurrence an amino acid;

Z is selected from the group: aryl substituted with 0-3 R¹⁰, C₃₋₁₀ cycloalkyl substituted with 0-3 R¹⁰, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R¹⁰;

R⁶, R^{6a}, R⁷, R^{7a}, R⁸, R^{8a}, R⁹ and R^{9a} are independently selected at each occurrence from the group: H, =O, COOH, SO₃H, PO₃H, C₁ C₅ alkyl substituted with 0-3 R¹⁰, aryl substituted with 0-3 R¹⁰, benzyl substituted with 0-3 R¹⁰, and C₁ C₅ alkoxy substituted with 0-3 R¹⁰, NHC(=O)R¹¹, C(=O)NHR¹¹, NHC(=O)NHR¹¹, NHR¹¹, R¹¹, and a bond to C_h;

R¹⁰ is independently selected at each occurrence from the group: a bond to C_h, COOR¹¹, OH, NHR¹¹, SO₃H, PO₃H, aryl substituted with 0-3 R¹¹, C₁₋₅ alkyl substituted with 0-1 R¹², C₁₋₅ alkoxy substituted with 0-1 R¹², and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R¹¹;

R¹¹ is independently selected at each occurrence from the group: H, aryl substituted with 0-1 R¹², a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 R¹², C₃₋₁₀ cycloalkyl substituted with 0-1 R¹², polyalkylene glycol substituted with 0-1 R¹², carbohydrate substituted with 0-1 R¹², cyclodextrin substituted with 0-1 R¹², amino acid substituted with 0-1 R¹², polycarboxyalkyl substituted with 0-1 R¹², polyazaalkyl substituted with 0-1 R¹², peptide substituted with 0-1 R¹², wherein the peptide is comprised of 2-10 amino acids, and a bond to C_h;

R¹² is a bond to C_h;

k is selected from 0, 1, and 2;

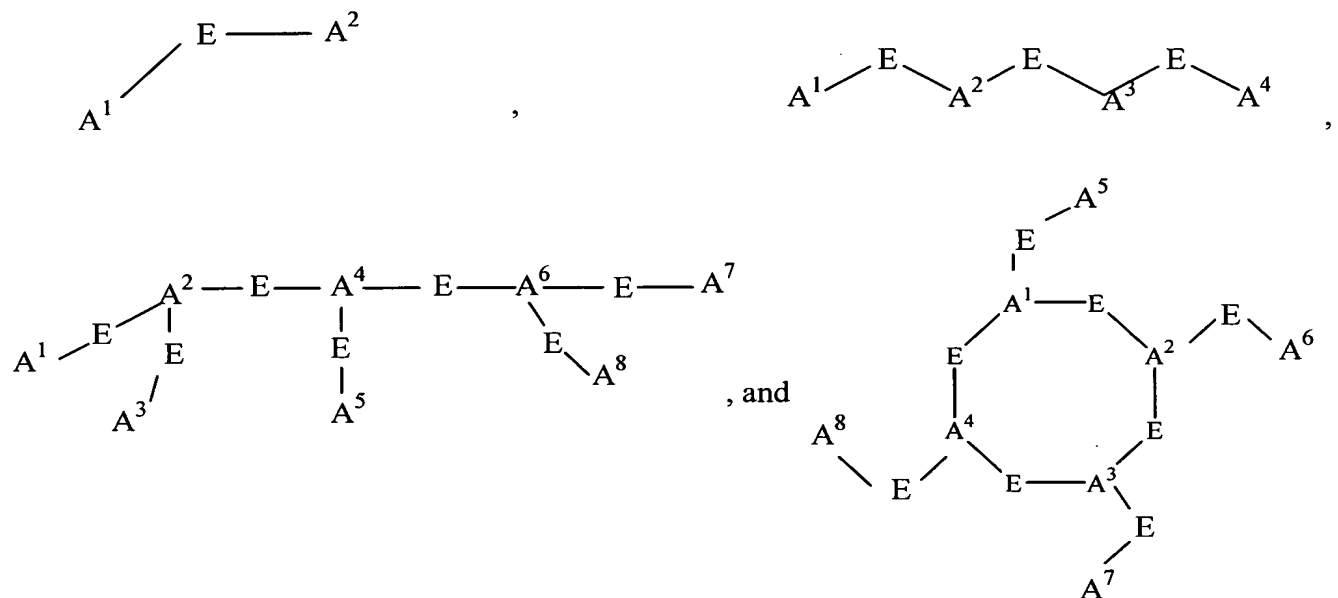
h is selected from 0, 1, and 2;

h' is selected from 0, 1, 2, 3, 4, and 5;

h'' is selected from 0, 1, 2, 3, 4, and 5;

g is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
 g' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
 g'' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
 g''' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
 s is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
 s' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
 s'' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
 t is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
 t' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

C_h is a metal bonding unit having a formula selected from the group:



A¹, A², A³, A⁴, A⁵, A⁶, A⁷, and A⁸ are independently selected at each occurrence from the group N, NR¹³, NR¹³R¹⁴, S, SH, S(Pg), O, OH, PR¹³, PR¹³R¹⁴, P(O)R¹⁵R¹⁶, and a bond to L_n;

E is a bond, CH, or a spacer group independently selected at each occurrence from the group:

C₁-C₁₀ alkyl substituted with 0-3 R¹⁷, aryl substituted with 0-3 R¹⁷, C₃₋₁₀ cycloalkyl

substituted with 0-3 R¹⁷, heterocyclo C₁₋₁₀ alkyl substituted with 0-3 R¹⁷, wherein the heterocyclo group is a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O, C₆₋₁₀ aryl C₁₋₁₀ alkyl substituted with 0-3 R¹⁷, C₁₋₁₀ alkyl C₆₋₁₀ aryl substituted with 0-3 R¹⁷, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R¹⁷;

R¹³, and R¹⁴ are each independently selected from the group: a bond to L_n, hydrogen, C₁-C₁₀ alkyl substituted with 0-3 R¹⁷, aryl substituted with 0-3 R¹⁷, C₁₋₁₀ cycloalkyl substituted with 0-3 R¹⁷, heterocyclo C₁₋₁₀ alkyl substituted with 0-3 R¹⁷, wherein the heterocyclo group is a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O, C₆₋₁₀ aryl C₁₋₁₀ alkyl substituted with 0-3 R¹⁷, C₁₋₁₀ alkyl C₆₋₁₀ aryl substituted with 0-3 R¹⁷, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R¹⁷, and an electron, provided that when one of R¹³ or R¹⁴ is an electron, then the other is also an electron;

alternatively, R¹³ and R¹⁴ combine to form =C(R²⁰)(R²¹);

R¹⁵ and R¹⁶ are each independently selected from the group: a bond to L_n, OH, C₁-C₁₀ alkyl substituted with 0-3 R¹⁷, C₁-C₁₀ alkyl substituted with 0-3 R¹⁷, aryl substituted with 0-3 R¹⁷, C₃₋₁₀ cycloalkyl substituted with 0-3 R¹⁷, heterocyclo C₁₋₁₀ alkyl substituted with 0-3 R¹⁷, wherein the heterocyclo group is a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O, C₆₋₁₀ aryl C₁₋₁₀ alkyl substituted with 0-3 R¹⁷, C₁₋₁₀ alkyl C₆₋₁₀ aryl substituted with 0-3 R¹⁷, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R¹⁷;

R¹⁷ is independently selected at each occurrence from the group: a bond to L_n, =O, F, Cl, Br, I, -CF₃, -CN, -CO₂R¹⁸, -C(=O)R¹⁸, -C(=O)N(R¹⁸)₂, -CHO, -CH₂OR¹⁸, -OC(=O)R¹⁸, -OC(=O)OR^{18a}, -OR¹⁸, -OC(=O)N(R¹⁸)₂, -NR^{19C}(=O)R¹⁸, -NR^{19C}(=O)OR^{18a},

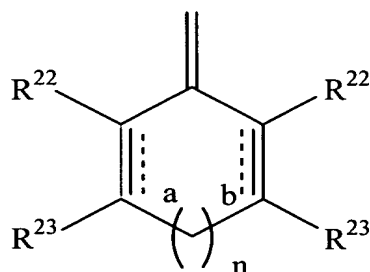
$-\text{NR}^{19}\text{C}(=\text{O})\text{N}(\text{R}^{18})_2$, $-\text{NR}^{19}\text{SO}_2\text{N}(\text{R}^{18})_2$, $-\text{NR}^{19}\text{SO}_2\text{R}^{18a}$, $-\text{SO}_3\text{H}$, $-\text{SO}_2\text{R}^{18a}$, $-\text{SR}^{18}$,
 $-\text{S}(=\text{O})\text{R}^{18a}$, $-\text{SO}_2\text{N}(\text{R}^{18})_2$, $-\text{N}(\text{R}^{18})_2$, $-\text{NHC}(=\text{S})\text{NHR}^{18}$, $=\text{NOR}^{18}$, NO_2 , $-\text{C}(=\text{O})\text{NHOR}^{18}$, $-\text{C}(=\text{O})\text{NHN}(\text{R}^{18})\text{R}^{18a}$, $-\text{OCH}_2\text{CO}_2\text{H}$, 2-(1 morpholino)ethoxy, C_1 - C_5 alkyl, C_2 - C_4 alkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkylmethyl, C_2 - C_6 alkoxyalkyl, aryl substituted with 0-2 R^{18} , and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O;

R^{18} , R^{18a} , and R^{19} are independently selected at each occurrence from the group: a bond to L_n , H, C_1 - C_6 alkyl, phenyl, benzyl, C_1 - C_6 alkoxy, halide, nitro, cyano, and trifluoromethyl;

Pg is a thiol protecting group;

R^{20} and R^{21} are independently selected from the group: H, C_1 - C_{10} alkyl, $-\text{CN}$, $-\text{CO}_2\text{R}^{25}$, $-\text{C}(=\text{O})\text{R}^{25}$, $-\text{C}(=\text{O})\text{N}(\text{R}^{25})_2$, C_2 - C_{10} 1-alkene substituted with 0-3 R^{23} , C_2 - C_{10} 1-alkyne substituted with 0-3 R^{23} , aryl substituted with 0-3 R^{23} , unsaturated 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R^{23} , and unsaturated C_{3-10} carbocycle substituted with 0-3 R^{23} ;

alternatively, R^{20} and R^{21} , taken together with the divalent carbon radical to which they are attached form:



R^{22} and R^{23} are independently selected from the group: H, R^{24} , C_1 - C_{10} alkyl substituted with 0-3 R^{24} , C_2 - C_{10} alkenyl substituted with 0-3 R^{24} , C_2 - C_{10} alkynyl substituted with 0-3 R^{24} , aryl substituted with 0-3 R^{24} , a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R^{24} , and C_{3-10} carbocycle substituted with 0-3 R^{24} ;

alternatively, R^{22} , R^{23} taken together form a fused aromatic or a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O;

a and **b** indicate the positions of optional double bonds and **n** is 0 or 1;

R^{24} is independently selected at each occurrence from the group: =O, F, Cl, Br, I, $-CF_3$, $-CN$, $-CO_2R^{25}$, $-C(=O)R^{25}$, $-C(=O)N(R^{25})_2$, $-N(R^{25})_3^+$, $-CH_2OR^{25}$, $-OC(=O)R^{25}$, $-OC(=O)OR^{25a}$, $-OR^{25}$, $-OC(=O)N(R^{25})_2$, $-NR^{26}C(=O)R^{25}$, $-NR^{26}C(=O)OR^{25a}$, $-NR^{26}C(=O)N(R^{25})_2$, $-NR^{26}SO_2N(R^{25})_2$, $-NR^{26}SO_2R^{25a}$, $-SO_3H$, $-SO_2R^{25a}$, $-SR^{25}$, $-S(=O)R^{25a}$, $-SO_2N(R^{25})_2$, $-N(R^{25})_2$, $=NOR^{25}$, $-C(=O)NHOR^{25}$, $-OCH_2CO_2H$, and 2-(1-morpholino)ethoxy; and,

R^{25} , R^{25a} , and R^{26} are each independently selected at each occurrence from the group: hydrogen and C_1 - C_6 alkyl;

and a pharmaceutically acceptable salt thereof.

4. (Previously Presented): A compound according to Claim 3, wherein:

L is glycine;

R^1 is an amino acid, optionally substituted with a bond to L_n , independently selected at each occurrence from the group: L-valine, D-valine, alanine, leucine, isoleucine, norleucine, 2-aminobutyric acid, tyrosine, phenylalanine, phenylglycine,

cyclohexylalanine, homophenylalanine, lysine, ornithine, 1,2-diaminobutyric acid, and 1,2-diaminopropionic acid;

R^2 is an amino acid, optionally substituted with a bond to L_n , independently selected at each occurrence from the group: valine, alanine, leucine, isoleucine, norleucine, 2-aminobutyric acid, tyrosine, L-phenylalanine, D-phenylalanine, thienylalanine, phenylglycine, biphenylglycine, cyclohexylalanine, homophenylalanine, L-1-naphthylalanine, D-1-naphthylalanine, lysine, ornithine, 1,2-diaminobutyric acid, 1,2-diaminopropionic acid, and 2-aminothiazole-4-acetic acid;

R^3 is an amino acid, optionally substituted with a bond to L_n , independently selected at each occurrence from the group: D-valine, D-alanine, D-leucine, D-isoleucine, D-norleucine, D-2-aminobutyric acid, D-tyrosine, D-phenylalanine, D-phenylglycine, D-cyclohexylalanine, D-homophenylalanine, D-lysine, D-serine, D-ornithine, D-1,2-diaminobutyric acid, and D-1,2-diaminopropionic acid;

R^4 is an amino acid, optionally substituted with a bond to L_n , independently selected at each occurrence from the group: D-valine, D-alanine, D-leucine, D-isoleucine, D-norleucine, D-2-aminobutyric acid, D-tyrosine, D-phenylalanine, D-thienylalanine, D-phenylglycine, D-cyclohexylalanine, D-homophenylalanine, D-1-naphthylalanine, D-lysine, D-ornithine, D-1,2-diaminobutyric acid, D-1,2-diaminopropionic acid, and 2-aminothiazole-4-acetic acid;

R^5 is an amino acid, optionally substituted with a bond to L_n , independently selected at each occurrence from the group: L-valine, L-alanine, L-leucine, L-isoleucine, L-norleucine, L-2-aminobutyric acid, L-tyrosine, L-phenylalanine, L-thienylalanine, L-phenylglycine, L-cyclohexylalanine, L-homophenylalanine, L-1-naphthylalanine, L-lysine, L-ornithine, L-1,2-diaminobutyric acid, L-1,2-diaminopropionic acid, and 2-aminothiazole-4-acetic acid;

d is selected from 1, 2, and 3;

W is independently selected at each occurrence from the group: O, NH, NHC(=O), C(=O)NH, C(=O), C(=O)O, OC(=O), NHC(=S)NH, NHC(=O)NH, SO₂, (OCH₂CH₂)_s, (CH₂CH₂O)_{s'}, (OCH₂CH₂CH₂)_{s''}, and (CH₂CH₂CH₂O)_t,

Z is selected from the group: aryl substituted with 0-1 R¹⁰, C₃₋₁₀ cycloalkyl substituted with 0-1 R¹⁰, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 R¹⁰;

R⁶, R^{6a}, R⁷, R^{7a}, R⁸, R^{8a}, R⁹, and R^{9a} are independently selected at each occurrence from the group: H, =O, COOH, SO₃H, C₁-C₅ alkyl substituted with 0-1 R¹⁰, aryl substituted with 0-1 R¹⁰, benzyl substituted with 0-1 R¹⁰, and C₁-C₅ alkoxy substituted with 0-1 R¹⁰, NHC(=O)R¹¹, C(=O)NHR¹¹, NHC(=O)NHR¹¹, NHR¹¹, R¹¹, and a bond to C_h;

R¹⁰ is independently selected at each occurrence from the group: COOR¹¹, OH, NHR¹¹, SO₃H, aryl substituted with 0-1 R¹¹, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 R¹¹, C₁-C₅ alkyl substituted with 0-1 R¹², C₁-C₅ alkoxy substituted with 0-1 R¹², and a bond to C_h;

R¹¹ is independently selected at each occurrence from the group: H, aryl substituted with 0-1 R¹², a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 R¹², polyalkylene glycol substituted with 0-1 R¹², carbohydrate substituted with 0-1 R¹², cyclodextrin substituted with 0-1 R¹², amino acid substituted with 0-1 R¹², and a bond to C_h;

k is 0 or 1;

h is 0 or 1;

h' is 0 or 1;

s is selected from 0, 1, 2, 3, 4, and 5;

s' is selected from 0, 1, 2, 3, 4, and 5;

s" is selected from 0, 1, 2, 3, 4, and 5;

t is selected from 0, 1, 2, 3, 4, and 5;

A¹, A², A³, A⁴, A⁵, A⁶, A⁷, and A⁸ are independently selected at each occurrence from the group: NR¹³, NR¹³R¹⁴, S, SH, S(Pg), OH, and a bond to L_n;

E is a bond, CH, or a spacer group independently selected at each occurrence from the group:

C₁-C₁₀ alkyl substituted with 0-3 R¹⁷, aryl substituted with 0-3 R¹⁷, C₃₋₁₀ cycloalkyl substituted with 0-3 R¹⁷, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R¹⁷;

R¹³, and R¹⁴ are each independently selected from the group: a bond to L_n, hydrogen, C₁-C₁₀ alkyl substituted with 0-3 R¹⁷, aryl substituted with 0-3 R¹⁷, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R¹⁷, and an electron, provided that when one of R¹³ or R¹⁴ is an electron, then the other is also an electron;

alternatively, R¹³ and R¹⁴ combine to form =C(R²⁰)(R²¹);

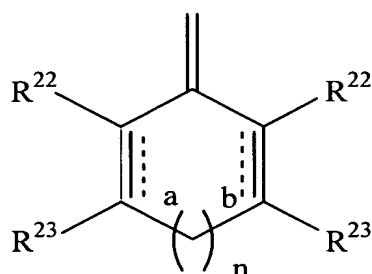
R¹⁷ is independently selected at each occurrence from the group: a bond to L_n, =O, F, Cl, Br, I, -CF₃, -CN, -CO₂R¹⁸, -C(=O)R¹⁸, -C(=O)N(R¹⁸)₂, -CH₂OR¹⁸, -OC(=O)R¹⁸, -OC(=O)OR^{18a}, -OR¹⁸, -OC(=O)N(R¹⁸)₂, -NR¹⁹C(=O)R¹⁸, -NR¹⁹C(=O)OR^{18a}, -NR¹⁹C(=O)N(R¹⁸)₂, -NR¹⁹SO₂N(R¹⁸)₂, -NR¹⁹SO₂R^{18a}, -SO₃H, -SO₂R^{18a}, -S(=O)R^{18a}, -SO₂N(R¹⁸)₂, -N(R¹⁸)₂, -NHC(=S)NHR¹⁸, =NOR¹⁸, -C(=O)NHN(R¹⁸)R^{18a}, -OCH₂CO₂H, and 2-(1-morpholino)ethoxy;

R₁₈, R_{18a}, and R₁₉ are independently selected at each occurrence from the group: a bond to L_n, H, and C₁-C₆ alkyl;

R²⁰ and R²¹ are independently selected from the group: H, C₁-C₅ alkyl, -CO₂R²⁵, C₂-C₅ 1-alkene substituted with 0-3 R²³, C₂-C₅ 1-alkyne substituted with 0-3 R²³, aryl

substituted with 0-3 R^{23} , and unsaturated 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R^{23} ;

alternatively, R^{20} and R^{21} , taken together with the divalent carbon radical to which they are attached form:



R^{22} and R^{23} are independently selected from the group: H, and R^{24} ;

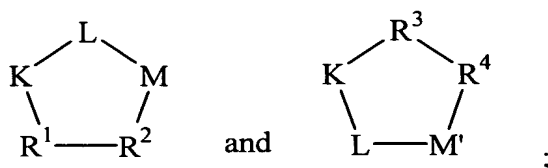
alternatively, R^{22} , R^{23} taken together form a fused aromatic or a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O;

R^{24} is independently selected at each occurrence from the group: $-\text{CO}_2R^{25}$, $-\text{C}(=\text{O})\text{N}(R^{25})_2$, $-\text{CH}_2\text{OR}^{25}$, $-\text{OC}(=\text{O})R^{25}$, $-\text{OR}^{25}$, $-\text{SO}_3\text{H}$, $-\text{N}(R^{25})_2$, and $-\text{OCH}_2\text{CO}_2\text{H}$; and,

R^{25} is independently selected at each occurrence from the group: H and $\text{C}_1\text{-C}_3$ alkyl.

5. (Previously Presented): A compound according to Claim 4, wherein:

Q is a peptide selected from the group:



R^1 is L-valine, D-valine, D-lysine optionally substituted on the ϵ amino group with a bond to L_n or L-lysine optionally substituted on the ϵ amino group with a bond to L_n ;

R^2 is L-phenylalanine, D-phenylalanine, D-1-naphthylalanine, 2-aminothiazole-4-acetic acid, L-lysine optionally substituted on the ϵ amino group with a bond to L_n or tyrosine, the tyrosine optionally substituted on the hydroxy group with a bond to L_n ;

R^3 is D-valine, D-phenylalanine, or L-lysine optionally substituted on the ϵ amino group with a bond to L_n ;

R^4 is D-phenylalanine, D-tyrosine substituted on the hydroxy group with a bond to L_n , or L-lysine optionally substituted on the ϵ amino group with a bond to L_n ;

provided that one of R^1 and R^2 in each Q is substituted with a bond to L_n , and further provided that when R^2 is 2-aminothiazole-4-acetic acid, K is N methylarginine;

d is 1 or 2;

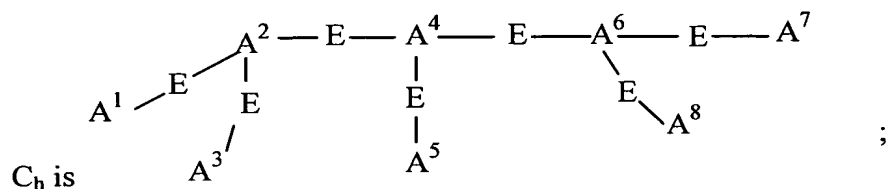
W is independently selected at each occurrence from the group: $\text{NHC}(=\text{O})$, $\text{C}(=\text{O})\text{NH}$, $\text{C}(=\text{O})$, $(\text{CH}_2\text{CH}_2\text{O})_s$, and $(\text{CH}_2\text{CH}_2\text{CH}_2\text{O})_t$;

R^6 , R^{6a} , R^7 , R^{7a} , R^8 , R^{8a} , R^9 , and R^{9a} are independently selected at each occurrence from the group: H, $\text{NHC}(=\text{O})\text{R}^{11}$, and a bond to C_h ;

k is 0;

h" is selected from 0, 1, 2, and 3;

g is selected from 0, 1, 2, 3, 4, and 5;
 g' is selected from 0, 1, 2, 3, 4, and 5;
 g'' is selected from 0, 1, 2, 3, 4, and 5;
 g''' is selected from 0, 1, 2, 3, 4, and 5;
 s' is 1 or 2;
 t is 1 or 2;



A^1 is selected from the group: OH, and a bond to L_n ;

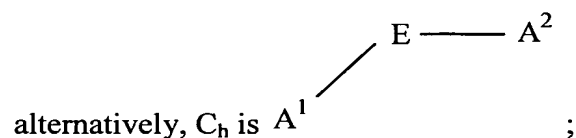
A^2 , A^4 , and A^6 are each N;

A^3 , A^5 , and A^8 are each OH;

A^7 is a bond to L_n or NH-bond to L_n ;

E is a C_2 alkyl substituted with 0-1 R^{17} ;

R^{17} is =O;



A^1 is NH_2 or $N=C(R^{20})(R^{21})$;

E is a bond;

A^2 is NHR^{13} ;

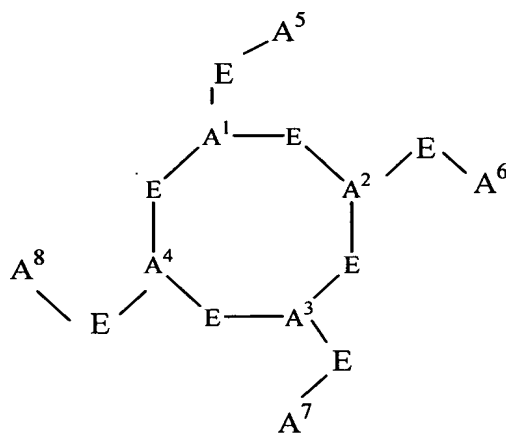
R^{13} is a heterocycle substituted with R^{17} , the heterocycle being selected from pyridine and pyrimidine;

R^{17} is selected from a bond to L_n , $C(=O)NHR^{18}$, and $C(=O)R^{18}$;

R^{18} is a bond to L_n ;

R^{24} is selected from the group: CO_2R^{25} , OR^{25} , SO_3H , and $N(R^{25})_2$;

R^{25} is independently selected at each occurrence from the group: hydrogen and methyl;



alternatively, C_h is

A^1 , A^2 , A^3 , and A^4 are each N;

A^5 , A^6 , and A^8 are each OH;

A^7 is a bond to L_n ;

E is a C_2 alkyl substituted with 0-1 R^{17} ; and,

R¹⁷ is =O.

6. (Previously Presented): A compound according to Claim 3, selected from the group:

- (a) cyclo{Arg-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};
- (b) cyclo{Arg-Gly-Asp-D-Tyr((N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-18-amino-14-aza-4,7,10-oxy-15-oxo-octadecoyl)-3-aminopropyl)-Val};
- (c) [2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{D-Tyr(3-aminopropyl)-Val-Arg-Gly-Asp})-cyclo{D-Tyr(3-aminopropyl)-Val-Arg-Gly-Asp};
- (d) cyclo(Arg-Gly-Asp-D-Tyr-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]));
- (e) cyclo{Arg-Gly-Asp-D-Phe-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]));
- (f) [2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};
- (g) [2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Phe-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};
- (h) cyclo{Arg-Gly-Asp-D-Nal-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]));

- (i) [2-[[[5-[carbonyl]-2-pyridinyl]-hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{Lys-Arg-Gly-Asp-D-Nal})-cyclo{Lys-Arg-Gly-Asp-D-Nal};
- (j) cyclo{Arg-Gly-Asp-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])-D-Val} ;
- (k) [2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{Lys-D-Val-Arg-Gly-Asp})-cyclo{Lys-D-Val-Arg-Gly-Asp};
- (l) {cyclo(Arg-D-Val-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-D-Asp-Gly};
- (m) cyclo{D-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])-D-Phe-D-Asp-Gly-Arg};
- (n) [2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{D-Lys-D-Phe-D-Asp-Gly-Arg})-cyclo{D-Lys-D-Phe-D-Asp-Gly-Arg};
- (o) cyclo{D-Phe-D-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])-D-Asp-Gly-Arg};
- (p) cyclo{N-Me-Arg-Gly-Asp-ATA-D-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])};
- (q) cyclo{Cit-Gly-Asp-D-Phe-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])};
- (r) 2-(1,4,7,10-tetraaza-4,7,10-tris(carboxymethyl)-1-cyclododecyl)acetyl-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};
- (s) cyclo{Arg-Gly-Asp-D-Phe-Lys(DTPA)};

- (t) cyclo{Arg-Gly-Asp-D-Phe-Lys}2(DTPA);
- (u) Cyclo{Arg-Gly-Asp-D-Tyr(N-DTPA-3-aminopropyl)-Val};
- (v) cyclo{Orn(d-N-2-ImidazolinyI)-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyI]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};
- (w) cyclo{Lys-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyI]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};
- (x) cyclo{Cys(2-aminoethyl)-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyI]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};
- (y) cyclo{HomoLys-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyI]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};
- (z) cyclo{Orn(d-N-Benzylcarbamoyl)-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyI]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};
- (aa) cyclo{Dap(b-(2-benzimidazolylacetyl))-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyI]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};
- (bb) cyclo{Orn(d-N-2-ImidazolinyI)-Gly-Asp-D-Phe-Lys(N-[2-[[[5-[carbonyl]-2-pyridinyI]hydrazono]methyl]-benzenesulfonic acid]]);
- (cc) cyclo{Orn(d-N-Benzylcarbamoyl)-Gly-Asp-D-Phe-Lys(N-[2-[[[5-[carbonyl]-2-pyridinyI]hydrazono]methyl]-benzenesulfonic acid]]);
- (dd) cyclo{Lys-D-Val-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyI]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-D-Asp-Gly};

(ee) cyclo{Orn(d-N-Benzylcarbamoyl)-D-Val-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-D-Asp-Gly}}; and,

(ff) cyclo{Orn(d-N-2-ImidazolinyI)-D-Val-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-D-Asp-Gly}};

or a pharmaceutically acceptable salt form thereof.

7. (Original): A kit comprising a compound of Claim 3, or a pharmaceutically acceptable salt form thereof and a pharmaceutically acceptable carrier.
8. (Original): A kit according to Claim 7, wherein the kit further comprises one or more ancillary ligands and a reducing agent.
9. (Original): A kit according to Claim 8, wherein the ancillary ligands are tricine and TPPTS.
10. (Original): A kit according to Claim 9, wherein the reducing agent is tin(II).
11. (Canceled)
12. (Previously Presented): A metallopharmaceutical comprising the compound of Claim 1, and a radioisotope selected from the group: ^{99m}Tc , ^{95}Tc , ^{111}In , ^{62}Cu , ^{64}Cu , ^{67}Ga , and ^{68}Ga , wherein the targeting moiety is a peptide or a mimetic thereof and the linking group is present between the targeting moiety and chelator.
13. (Previously Presented): A metallopharmaceutical according to Claim 12, wherein the targeting moiety is a cyclic pentapeptide.

14. (Previously Presented): A metallopharmaceutical according to Claim 13, wherein the radioisotope is ^{99m}Tc or ^{95}Tc , and the metallopharmaceutical further comprises a first ancillary ligand and a second ancillary ligand capable of stabilizing the metallopharmaceutical.

15. (Previously Presented): A metallopharmaceutical according to Claim 14, wherein the radioisotope is ^{99m}Tc .

16. (Previously Presented): A metallopharmaceutical according to Claim 15, wherein the metallopharmaceutical is selected from the group:

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}(\text{Arg-Gly-Asp-D-Tyr}(\text{N}-[[5\text{-[carbonyl]-2-pyridinyl}] \text{ diazenido}]-3\text{-aminopropyl})\text{-Val}))$;

$^{99m}\text{Tc}(\text{tricine})(\text{TPPMS})(\text{cyclo}(\text{Arg-D-Val-D-Tyr}(\text{N}-[[5\text{-[carbonyl]-2-pyridinyl}] \text{ diazenido}]-3\text{-aminopropyl})\text{-D-Asp-Gly}))$;

$^{99m}\text{Tc}(\text{tricine})(\text{TPPDS})(\text{cyclo}(\text{Arg-D-Val-D-Tyr}(\text{N}-[[5\text{-[carbonyl]-2-pyridinyl}] \text{ diazenido}]-3\text{-aminopropyl})\text{-D-Asp-Gly}))$;

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}(\text{Arg-D-Val-D-Tyr}(\text{N}-[[5\text{-[carbonyl]-2-pyridinyl}] \text{ diazenido}]-3\text{-aminopropyl})\text{-D-Asp-Gly}))$;

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}(\text{Arg-Gly-Asp-D-Phe-Lys}(\text{N}-[[5\text{-[carbonyl]-2-pyridinyl}] \text{ diazenido}])))$;

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}(\text{Arg-Gly-Asp-D-Tyr-Lys}(\text{N}-[[5\text{-[carbonyl]-2-pyridinyl}] \text{ diazenido}])))$;

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})([2\text{-}[[[5\text{-[carbonyl]-2-pyridinyl}] \text{ hydrazono}] \text{ methyl}]\text{-benzenesulfonic acid}]\text{-Phe-Glu}(\text{cyclo}\{\text{Lys-Arg-Gly-Asp-D-Phe}\})\text{-cyclo}\{\text{Lys-Arg-Gly-Asp-D-Phe}\}))$;

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}\{\text{Arg-Gly-Asp-D-Nal-Lys}([2-[[[5-[\text{carbonyl}]-2\text{-pyridinyl}]\text{hydrazono}]\text{methyl}]\text{-benzenesulfonic acid}]]\}));$

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})([2-[[[5-[\text{carbonyl}]-2\text{-pyridinyl}]\text{-hydrazono}]\text{methyl}]\text{-benzenesulfonic acid}]\text{-Glu}(\text{cyclo}\{\text{Lys-Arg-Gly-Asp-D-Nal}\})\text{-cyclo}\{\text{Lys-Arg-Gly-Asp-D-Nal}\}));$

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}(\text{Arg-Gly-Asp-D-Tyr}(\text{N}-[[5-[\text{carbonyl}]-2\text{-pyridinyl}]\text{diazenido}]\text{-18-amino-14-aza-4,7,10-oxy-15-oxo-octadecoyl})\text{-3-aminopropyl})\text{-Val}));$

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{N}-[[5-[\text{carbonyl}]-2\text{-pyridinyl}]\text{diazenido}]\text{-Glu}(\text{O-cyclo}(\text{Lys-Arg-Gly-Asp-D-Phe}))\text{-O-cyclo}(\text{Lys-Arg-Gly-Asp-D-Phe}));$

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{N}-[[5-[\text{carbonyl}]-2\text{-pyridinyl}]\text{diazenido}]\text{-Glu}(\text{O-cyclo}(\text{D-Tyr}(3\text{-aminopropyl})\text{-Val-Arg-Gly-Asp}))\text{-O-cyclo}(\text{D-Tyr}(3\text{-aminopropyl})\text{-Val-Arg-Gly-Asp}));$

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}(\text{Arg-Gly-Asp-Lys}(\text{N}-[[5-[\text{carbonyl}]-2\text{-pyridinyl}]\text{diazenido}]))\text{-D-Val}));$

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}\{\text{D-Lys}([2-[[[5-[\text{carbonyl}]-2\text{-pyridinyl}]\text{hydrazono}]\text{methyl}]\text{-benzenesulfonic acid}])\text{-D-Phe-D-Asp-Gly-Arg}\}));$

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})([2-[[[5-[\text{carbonyl}]-2\text{-pyridinyl}]\text{hydrazono}]\text{methyl}]\text{-benzenesulfonic acid}]\text{-Glu}(\text{cyclo}\{\text{D-Lys-D-Phe-D-Asp-Gly-Arg}\})\text{-cyclo}\{\text{D-Lys-D-Phe-D-Asp-Gly-Arg}\}));$

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}\{\text{D-Phe-D-Lys}([2-[[[5-[\text{carbonyl}]-2\text{-pyridinyl}]\text{hydrazono}]\text{methyl}]\text{-benzenesulfonic acid}])\text{-D-Asp-Gly-Arg}\}));$

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}(\text{N-Me-Arg-Gly-Asp-ATA-D-Lys}(\text{N}-[[5\text{-[carbonyl]-2-pyridinyl}] \text{diazenido}])))$);

$^{99m}\text{Tc}(\text{tricine})(\text{TPPTS})(\text{cyclo}\{\text{Cit-Gly-Asp-D-Phe-Lys}([2-[[[5\text{-[carbonyl]-2-pyridinyl}] \text{hydrazono}] \text{methyl}] \text{-benzenesulfonic acid}])])\}$); and,

$^{99m}\text{Tc}(\text{tricine})(1,2,4\text{-triazole})(\text{cyclo}(\text{Arg-Gly-Asp-D-Tyr}(\text{N}-[[5\text{-[carbonyl]-2-pyridinyl}] \text{diazenido}] \text{-3-aminopropyl}) \text{-Val}))$.

17. (Previously Presented): A metallopharmaceutical according to Claim 13, wherein the radioisotope is ^{111}In .

18. (Previously Presented): A metallopharmaceutical according to Claim 17, wherein the metallopharmaceutical is selected from the group:

$(\text{DOTA-}^{111}\text{In})\text{-Glu}(\text{cyclo}\{\text{Lys-Arg-Gly-Asp-D-Phe}\})\text{-cyclo}\{\text{Lys-Arg-Gly-Asp-D-Phe}\}$;

$\text{cyclo}(\text{Arg-Gly-Asp-D-Phe-Lys}(\text{DTPA-}^{111}\text{In}))$; and

$\text{cyclo}(\text{Arg-Gly-Asp-D-Phe-Lys})_2(\text{DTPA-}^{111}\text{In})$.

19. (Previously Presented): A metallopharmaceutical comprising the compound of Claim 1 and a radioisotope selected from the group: ^{186}Re , ^{188}Re , ^{153}Sm , ^{166}Ho , ^{177}Lu , ^{149}Pm , ^{90}Y , ^{212}Bi , ^{103}Pd , ^{109}Pd , ^{159}Gd , ^{140}La , ^{198}Au , ^{199}Au , ^{169}Yb , ^{175}Yb , ^{165}Dy , ^{166}Dy , ^{67}Cu , ^{105}Rh , ^{111}Ag , and ^{192}Ir , the targeting moiety is a peptide or a mimetic thereof and the linking group is present between the targeting moiety and chelator.

20. (Previously Presented): A metallopharmaceutical according to Claim 19, wherein the targeting moiety is a cyclic pentapeptide.

21. (Previously Presented): A metallopharmaceutical according to Claim 20, wherein the radioisotope is ^{153}Sm .

22. (Previously Presented): A metallopharmaceutical according to Claim 21, wherein the metallopharmaceutical is selected from the group:

cyclo(Arg-Gly-Asp-D-Phe-Lys(DTPA- ^{153}Sm));

cyclo(Arg-Gly-Asp-D-Phe-Lys) $_2$ (DTPA- ^{153}Sm); and,

cyclo(Arg-Gly-Asp-D-Tyr(N-DTPA(^{153}Sm)-3-aminopropyl)-Val).

23. (Previously Presented): A metallopharmaceutical according to Claim 20, wherein the radioisotope is ^{177}Lu .

24. (Previously Presented): A metallopharmaceutical according to Claim 23, wherein the metallopharmaceutical is selected from the group:

cyclo(Arg-Gly-Asp-D-Phe-Lys(DTPA- ^{177}Lu));

(DOTA- ^{177}Lu)-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};

cyclo(Arg-Gly-Asp-D-Phe-Lys) $_2$ (DTPA- ^{177}Lu); and

cyclo(Arg-Gly-Asp-D-Tyr(N-DTPA(^{177}Lu)-3-aminopropyl)-Val).

25. (Previously Presented): A metallopharmaceutical according to Claim 20, wherein the radioisotope is ^{90}Y .

26. (Previously Presented): A metallopharmaceutical according to Claim 25, wherein the metallopharmaceutical is:

(DOTA-⁹⁰Y)-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};

27. (Previously Presented): A metallopharmaceutical comprising the compound of Claim 1 and, a paramagnetic metal ion selected from the group: Gd(III), Dy(III), Fe(III), and Mn(II), wherein the targeting moiety is a peptide or a mimetic and the linking group is present between the targeting moiety and chelator.

28. (Previously Presented): A metallopharmaceutical according to Claim 27, wherein the targeting moiety is a cyclic pentapeptide.

29. (Previously Presented): A metallopharmaceutical according to Claim 28, wherein the metal ion is Gd(III).

30. (Previously Presented): A metallopharmaceutical according to Claim 29, wherein the contrast agent is:

cyclo(Arg-Gly-Asp-D-Tyr(N-DTPA(Gd(III)))-3-aminopropyl)-Val).

31. (Previously Presented): A metallopharmaceutical comprising the compound of Claim 1 and a metal selected from the group: Re, Sm, Ho, Lu, Pm, Y, Bi, Pd, Gd, La, Au, Au, Yb, Dy, Cu, Rh, Ag, and Ir, wherein the targeting moiety is a cyclic pentapeptide, and the linking group is present between the targeting moiety and chelator.

32. (Previously Presented): A method of treating rheumatoid arthritis in a patient comprising: administering a metallopharmaceutical of Claim 19 capable of localizing in Previously Presented angiogenic vasculature to a patient by injection or infusion.

33. (Previously Presented): A method of treating cancer in a patient comprising: administering to a patient in need thereof a metallopharmaceutical of Claim 19 by injection or infusion.

34. (Previously Presented): A method of imaging formation of new blood vessels in a patient comprising: (1) administering a metallopharmaceutical comprising the compound of Claim 1 and a metal to a patient by injection or infusion; (2) imaging the area of the patient wherein the desired formation of Previously Presented blood vessels is located.

35. (Previously Presented): A method of imaging cancer in a patient comprising: (1) administering a metallopharmaceutical of Claim 12 to a patient by injection or infusion; (2) imaging the patient using planar or SPECT gamma scintigraphy, or positron emission tomography.

Claims 36-47 (Canceled)

48. (Previously Presented): A therapeutic radiopharmaceutical composition, comprising:
(a) a metallopharmaceutical of Claim 19; and,
(b) a parenterally acceptable carrier.

49. (Previously Presented): A diagnostic radiopharmaceutical composition, comprising:
(a) a metallopharmaceutical comprising the compound of Claim 1 and a metal; and,
(b) a parenterally acceptable carrier.

50. (Original): A therapeutic radiopharmaceutical composition, comprising: a radiolabelled targeting moiety, wherein the targeting moiety is a compound Q of Claim 3 and the radiolabel is a therapeutic isotope selected from the group: ^{35}S , ^{32}P , ^{125}I , ^{131}I , and ^{211}At .

Claim 51 (Canceled)

Claim 52 (Previously Presented): A compound comprising a peptide or peptidomimetic $\alpha_v\beta_3$ receptor targeting moiety bound to a chelator.

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Office Action Dated: November 18, 2004

PATENT

Claim 53 (New): A compound, comprising a peptide or peptidomimetic $\alpha_v\beta_3$ receptor targeting moiety bound to a chelator, wherein said chelator is a diaminedithiol, monoamine-monoamidedithiol, triamide-monothiol, monoamine-diamide-monothiol, diaminedioxime, hydrazine, or cyclic polyaminocarboxylate, or acyclic polyaminocarboxylate.